1. Current capacity problems with inland transport infrastructure (road, rail, inland water)

Road network

The criterion for a “bottleneck” is where traffic volume on two-lane motor roads exceeds 8,000-12,000 vehicles/day for 80-120 days per year.

An analysis made applying this criterion indicates that there are no bottlenecks on public roads of republican importance.

Rail network

An analysis of the throughput capacity of single-track and double-track sections of the mainline network of the Republic of Kazakhstan conducted together with the Kazakhstan Temir Zholy joint-stock company has established that the rated capacity exceeds actual measurements of train movements on average by 40-50% on single-track sections and by 80% on double-track sections.
**Inland waterways**

The length of inland waterways in the Republic of Kazakhstan is more than 4,000 km. Navigation now takes place in the Irtysh, Ural and Ili river basins and on lake Balkhash on sections with an overall length of 3,912 km.

Most inland freight traffic passes along the Irtysh and Ural rivers, where the large privately-owned river ports of Pavlodar and Atyrau, respectively, are located.

Inland waterways are kept in a safe condition for navigation and navigable hydraulic engineering structures (locks) are maintained by seven specialized republican State-owned waterways enterprises.

On the river Irtysh there are three navigational locks in operation - the Ust-Kamenogorsk, Bukhtarma and Shulbin locks - which are unique navigable hydraulic engineering facilities.

The Ural-Caspian canal is situated in the Ural river delta and serves as an approach canal linking the city of Atyrau with Caspian Sea ports. Canal bottom sediments form as a result of the annual natural channel reshaping process.

Maintaining guaranteed navigation channel dimensions on the Ural-Caspian canal will help to ensure the necessary conditions for “river-sea” type vessels to enter the estuarial port of Atyrau and facilitate the organization of non-transshipment carriage of foreign trade and transit cargoes in this region.

2. **Regulatory measures to eliminate bottlenecks**

Plan of Action for the implementation of the Comprehensive Republican Road Traffic Safety Programme.

1. Republican budget programme 020 - “Water transport infrastructure development for 2004”;

2. Republican budget programme 005 - “Ensuring the navigability of waterways and maintenance of locks”.

3. **Infrastructure measures to eliminate bottlenecks**

It is proposed to eliminate 596 bottlenecks with a view to reducing potential road traffic hazards in 2005 in accordance with the Plan of Action for the implementation of the Comprehensive Republican Road Traffic Safety Programme. Using the funds allocated, 143 of these bottlenecks are to be eliminated through reconstruction, 392 with medium repairs, 42 by major overhaul and 19 with current repairs.
To ensure that the Ural-Caspian canal remains navigable it has become necessary to develop the canal to the projected depth and carry out annual dredging operations to maintain its dimensions. In 2004 work began on reconstruction of the canal, and after its completion the projected depth of the river part of the canal will be 3.4 m and the marine part 3.8 m. The projected width of the canal will be 75-76 m.

With a view to keeping the Ust-Kamenogorsk, Bukhtarma and Shulbin locks in a suitable condition for navigation, the republican State-owned Eastern Kazakhstan waterways enterprise is carrying out work on the implementation of a plan of action for the accident-free operation of locks on the river Irtys. 

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